

## CLAIMS

1. An information record medium on which there are recorded:  
a plurality of content informations; and

5 a plurality of play list sets each including a plurality of play  
list informations defining reproduction sequence of the plurality of  
content informations, wherein

the plurality of content informations, whose reproduction  
sequences are defined by the plurality of play list informations in a  
10 same play list set, are different from each other in reproduction  
functions required for an information reproduction system to  
reproduce the plurality of content informations and are adapted to  
at least partially construct titles, each of which is a logically united  
information unit and which are same to each other, and

15 required function information indicating the reproduction  
function is further recorded for each of the plurality of play list  
informations.

2. The information record medium according to claim 1, wherein  
20 the plurality of content informations include video  
information and audio information,

the reproduction function is a video reproduction  
performance and an audio reproduction performance required for  
the information reproduction system,

25 the required function information is of information, which  
indicates the video reproduction performance and the audio

reproduction performance and is recorded for each of the plurality of play list informations.

3. The information record medium according to claim 2, wherein  
5 priority information indicating which of the video reproduction performance and the audio reproduction performance is to be prioritized is further recorded.

4. The information record medium according to claim 2, wherein  
10 the required function information comprises a required function information table in which information indicating whether or not different video reproduction performances are required for each of predetermined ranks and information indicating whether or not different audio reproduction performances are required for each  
15 of predetermined ranks are arranged vertically and horizontally as a matrix.

5. The information record medium according to claim 4, wherein  
priority information indicating a priority among various  
20 combinations of said video reproduction performances different for each of said predetermined ranks and said audio reproduction performances different for each of said predetermined ranks is further recorded.

25 6. The information record medium according to claim 1, wherein each of the play list informations includes pointer

information designating item information, which is a logically accessible reproduction unit and composes the content information.

7. The information record medium according to claim 1, wherein  
5 title information designating at least one play list set from among the plurality of play list sets, which corresponds to the content information to be reproduced, is further recorded to reproduce the plurality of content informations as the title.
- 10 8. The information record medium according to claim 7, wherein the title information includes pointer information designating at least one play list set, which corresponds to the content information to be reproduced.
- 15 9. The information record medium according to claim 1, wherein a whole stream including a plurality of partial streams made of the plurality of content informations is multiplexed by a packet unit which is a physically accessible unit and stores pieces of the plurality of content informations, and  
20 relationship definition information defining a relationship between packets to be multiplexed and the plurality of partial streams is further recorded, as reproduction control information to control a reproduction of the plurality of content informations.
- 25 10. An information record apparatus comprising:  
a first record device for recording a plurality of content

informations; and

a second record device for recording a plurality of play list sets each including a plurality of play list informations defining reproduction sequence of the plurality of content informations,  
5 wherein

the plurality of content informations, whose reproduction sequences are defined by the plurality of play list informations in a same play list set, are different from each other in reproduction functions required for an information reproduction system to  
10 reproduce the plurality of content informations and are adapted to at least partially construct titles, each of which is a logically united information unit and which are same to each other, and

said apparatus further comprises a third record device for further recording required function information indicating the  
15 reproduction function for each of the plurality of play list informations.

11. An information record method comprising:

a first record process of recording a plurality of content  
20 informations; and

a second record process of recording a plurality of play list sets each including a plurality of play list informations defining reproduction sequence of the plurality of content informations,  
wherein

25 the plurality of content informations, whose reproduction sequences are defined by the plurality of play list informations in a

same play list set, are different from each other in reproduction functions required for an information reproduction system to reproduce the plurality of content informations and are adapted to at least partially construct titles, each of which is a logically united  
5 information unit and which are same to each other, and

said method further comprises a third record process of further recording required function information indicating the reproduction function for each of the plurality of play list informations.

10

12. An information reproduction apparatus for reproducing the information record medium according to claim 1, said apparatus comprising:

a reproduction device capable of reproducing the plurality of  
15 content informations, the plurality of play list sets and the required function information; and

a control device for selecting one play list information defining the reproduction sequence of the content information reproducible by the information reproduction apparatus, from  
20 among the plurality of play list informations included in the same play list set by comparing (i) the reproduction function indicated by the required function information reproduced by the reproduction device with (ii) reproduction function of the information reproduction apparatus indicated by a set function information set  
25 for the information reproduction apparatus, and controlling the reproduction device to reproduce the content information in

accordance with the reproduction sequence defined by the selected play list information.

13. The information reproduction apparatus according to claim  
5 12, wherein

the plurality of content informations includes video information and audio information,

the reproduction function is a video reproduction performance and an audio reproduction performance required for  
10 the information reproduction system,

the required function information is of information indicating the video reproduction performance and the audio reproduction performance recorded for each of the plurality of play list informations,

15 the set function information indicates the video reproduction performance and the audio reproduction performance of the information reproduction apparatus, and

the set function information includes information indicating whether or not the information reproduction apparatus has different  
20 video reproduction performances for each of predetermined ranks and information indicating whether or not the information reproduction apparatus has different audio reproduction performances for each of predetermined ranks.

25 14. An information reproduction apparatus for reproducing the information record medium according to claim 3, said apparatus

comprising:

a reproduction device capable of reproducing the plurality of content informations, the plurality of play list sets and the required function information; and

5 a control device for selecting one play list information defining the reproduction sequence of the content information reproducible by the information reproduction apparatus, from among the plurality of play list informations included in the same play list set by comparing (i) the video reproduction function and  
10 the audio reproduction function indicated by the required function information reproduced by the reproduction device with (ii) video reproduction function and audio reproduction function of the information reproduction apparatus indicated by a set function information set for the information reproduction apparatus, and  
15 controlling the reproduction device to reproduce the content information in accordance with the reproduction sequence defined by the selected play list information, wherein

the control device selects one play list information corresponding to the video reproduction performance or the audio  
20 reproduction performance prioritized in accordance with the priority information, from among the plurality of play list informations included in the same play list.

15. An information reproduction method of reproducing the  
25 information record medium according to claim 1, said method implemented with an information reproduction apparatus

comprising a reproduction device capable of reproducing the plurality of content informations, the plurality of play list sets and the required function information, said method comprising:

a first control process of selecting one play list information  
5 defining the reproduction sequence of the content information reproducible by the information reproduction apparatus, from among the plurality of play list informations included in the same play list set by comparing (i) the reproduction function indicated by the required function information reproduced by the reproduction  
10 device with (ii) reproduction function of the information reproduction apparatus indicated by a set function information set for the information reproduction apparatus, and

a second controlling process of controlling the reproduction device to reproduce the content information in accordance with the  
15 reproduction sequence defined by the selected play list information.

16. An information record reproduction apparatus comprising:

a first record device for recording a plurality of content informations; and

20 a second record device for recording a plurality of play list sets each including a plurality of play list informations defining reproduction sequence of the plurality of content informations, wherein

the plurality of content informations, whose reproduction  
25 sequences are defined by the plurality of play list informations in a same play list set, are different from each other in reproduction



functions required for an information reproduction system to reproduce the plurality of content informations and are adapted to at least partially construct titles, each of which is a logically united information unit and which are same to each other, and

5           said apparatus further comprises:

          a third record device for further recording required function information indicating the reproduction function for each of the plurality of play list informations;

          a reproduction device capable of reproducing the plurality of  
10 content informations, the plurality of play list sets and the required function information; and

          a control device for selecting one play list information defining the reproduction sequence of the content information reproducible by the information reproduction apparatus, from  
15 among the plurality of play list informations included in the same play list set by comparing (i) the reproduction function indicated by the required function information reproduced by the reproduction device with (ii) reproduction function of the information reproduction apparatus indicated by a set function information set  
20 for the information reproduction apparatus, and controlling the reproduction device to reproduce the content information in accordance with the reproduction sequence defined by the selected play list information.

25   17.   An information record reproduction method comprising:

          a first record process of recording a plurality of content

informations; and

a second record process of recording a plurality of play list sets each including a plurality of play list informations defining reproduction sequence of the plurality of content informations,

5 wherein

the plurality of content informations, whose reproduction sequences are defined by the plurality of play list informations in a same play list set, are different from each other in reproduction functions required for an information reproduction system to  
10 reproduce the plurality of content informations and are adapted to at least partially construct titles, each of which is a logically united information unit and which are same to each other, and

said method further comprises:

a third record process of further recording required function  
15 information indicating the reproduction function for each of the plurality of play list informations;

a first control process of selecting one play list information defining the reproduction sequence of the content information reproducible by the information reproduction apparatus, from  
20 among the plurality of play list informations included in the same play list set by comparing (i) the reproduction function indicated by the required function information reproduced by the reproduction device with (ii) reproduction function of the information reproduction apparatus indicated by a set function information set  
25 for the information reproduction apparatus, and

a second controlling process of controlling the reproduction

device to reproduce the content information in accordance with the reproduction sequence defined by the selected play list information.

18. A computer program for a record control to control a  
5 computer disposed at the information record apparatus according to claim 10, said program making the computer function as at least a part of the first record device, the second record device and the third record device.

10 19. A computer program for a reproduction control to control a computer disposed at the information reproduction apparatus according to claim 12, said program making the computer function as at least a part of the reproduction device and the control device.

15 20. A computer program for a record reproduction control to control a computer disposed at the information record reproduction apparatus according to claim 16, said program making the computer function as at least a part of the first record device, the second record device, the third record device, the reproduction device and  
20 the control device.

21. A data structure including a control signal, said structure comprising:

a plurality of content informations; and

25 a plurality of play list sets each including a plurality of play list informations defining reproduction sequence of the plurality of

content informations, wherein

the plurality of content informations, whose reproduction sequences are defined by the plurality of play list informations in a same play list set, are different from each other in reproduction  
5 functions required for an information reproduction system to reproduce the plurality of content informations and are adapted to at least partially construct titles, each of which is a logically united information unit and which are same to each other, and

said structure further comprises required function  
10 information indicating the reproduction function for each of the plurality of play list informations.